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cannot be traded for a given time by  
certain participants.

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At column 6, lines 44-59, please replace the paragraph there with:

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The general context of system operation is based on the repetitive operation of several functions, and, in its preferred embodiment, implements these functions through a specially designed keypad. Generally, the process begins when customers contact the brokers and place bids and offers for a defined class of instruments. Alternatively, bids and offers may be entered by a customer using a remote workstation. These various positions are displayed on the computer terminal in specific ways to reflect priority, etc. A customer can establish trading priority by placing a bid or offer at a select price and volume; bids at the same price are displayed on the screen in time order in which they enter the system (as are offers). As such a "queue" of bids and offers develops, with place in line set by time at the same price. This queue is displayed on screen at the broker's workstation. Typically, there is a small difference between the bid price and offer price - the "spread". If no difference exists, this is known as a "locked" market.

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At column 8, lines 7-20, please replace the paragraph there with:

A<sup>3</sup>

The foregoing operation will result in the real time distribution among [brokering] work stations for decision execution and for select distribution within the fixed income investment community. In the context of the present invention, three segments of this community are provided with the data. At block 180 and block 170 System proprietors involved in automated options and futures processing are provided the securities data for quantifying and evaluating specific options and futures positions pursuant to the trading of option and futures contracts on individual securities. In a similar manner, the securities data is provided to system proprietors regarding options and futures contracts to permit proper transactions in the trading of options and futures contracts based on the individual securities data.

At column 8, lines 38-52, please replace the paragraph there with:

A<sup>4</sup>

During processing, various "states" are reached, depending on the type of inputs received by the system. The core state is known as the "Bid-Offer" State and reflects the open status of the market. In this state, customers are referenced as "makers" and "contra-makers"; during all other states, customers are considered "traders" and "contra-traders". Under this notation, traders and makers are those customers that issue a trading command, while contra-makers and contra-traders are those who receive a trading command.

A4  
cont

[Participants in the Workup State] The initial participants in the Workup State (i.e., the Aggressor and the first customer on the passive side) are known as "current workers" and are vested with the authority under system control to hold up a trade for a predetermined duration of time. Important character distinctions between customers at various stages of trade processing are displayed to the broker on screen by reverse highlight or similar.

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At column 8, lines 62-67, please replace the paragraph there with:

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A5

Information about trade progress and participants are provided at each workstation in the form of a specifically oriented screen display. In particular, the system provides for screen display in the form of a trading quadrant or "quad" wherein key trading indicators are displayed. A sample QUAD for the bid/offer state is depicted below:

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At column 9, lines 11-22, please replace the paragraph there with:

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A6

In the above QUAD, the current bid is depicted adjacent and above the CUST designation - reflecting a bid price of "100.01"; continuing on the same line, the current offer price is set at "100.03" - indicating a spread of 0.02. When a trade is in progress - as initiated by a hit or lift from the Bid/Offer State, the broker's

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attention is mainly directed to the conditional prompt showing the total size that is being bid or offered and that can be acted upon by the participating customers. This number is displayed at the intersection of the totals line and [the Bid/Offer column] one of the bid/offer columns. This total is further refined in the quad into individual prequantities, indicating the customer sizes in their respective rows.

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At column 9, lines 40-51, please replace the paragraph there with:

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A7

The following discussion now focuses on the Bid/Offer State, wherein market makers are inputting various [bid] bids and offers into the system while waiting for an execution as the market matures. These pending commitments may be [taken via hit or lift] acted upon via hit or lift commands entered by makers currently showing or by a third party without showing its position prior to the hit (or lift). As new bids and offers are made, the price attendant therewith determines the placement in the queue, with equally priced offers (or bids) ordered in time entry. Accordingly, as the market tightens with better bids and offers (reducing the spread), these new positions are moved to the top of the queue as displayed.

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At column 9, lines 52-64, please replace the paragraph there with:

A8

In addition to price, bids and offers include a size component, that is used to express the dollar volume of the pending bid (or offer). For a customer to increase the size of the bid or offer, a new entry is made, and placed into the queue separately as the system will not increment the size component - unless [adjacent] the entry was made adjacent in time to an existing Bid/Offer already in the queue. In this way, as bids and offers are entered during this state, they are displayed to the brokers in relation to their respective size, with the total Bid/Offer count (aggregate size) displayed at the above noted conditional prompt. As such, the conditional prompt serves as the main impetus for a transaction due to its measure of apparent market capacity at a given price.

At column 9, line 65 through column 10, line 14, please replace the paragraph there with:

A9

A Bid/Offer is typically entered as "uncleared" during the Bid/Offer State - indicating that the bid or offer is only available to the current market [participants,] participants on the contra-side, i.e., those on the list with current commitments (bids/offers). Accordingly, uncleared presentations are seen on the screens [of] as available to only these participants for a system set time interval - and only those customers with current participation can lift or hit these uncleared entries. After the preset time interval has

A9  
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run (tracked by a system internal clock) the uncleared [bids] bids/offers - if still extant - become available beyond the current participants. There is a business purpose for this arrangement. By allowing customers with active bids/offers the first [view of] chance for the new entry, this rewards these customers for showing the market on their side. Thus the initial [bidders] bidders/offerors are invited to become Aggressors - and the system preset interval provides these [bidders] bidders/offerors time to make their decision by preventing new buyers and sellers from entering into the [market] trade (i.e., hitting or lifting) for this discrete interval.

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At column 10, lines 22-32, please replace the paragraph there with:

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A10

Continuing with this logic path, test 650 compares any Bid/Offer pricing associated with TRD(ID) to then pending bids and offers to discern whether the new entry improves on current pricing; if not better, logic branches to block 690 and the new entry is placed at the end of the queue, Q-end. However, if the new pricing, PRL(ID) is better than the old (then current) pricing PRC(OLD), logic brings the new CUST\_X to the top of the queue, block 660; also, the market is [locked] blocked allowing only the current makers (displayed) to react to the new pricing for a pre-set time, block 670.

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At column 10, lines 33-35, please replace the paragraph there with:

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A<sup>11</sup>  
At test 700, system checks for a new hit/lift; if none, logic continues to the next entry, block 710. A [position] positive response to Test 700 shifts processing to the next state, block 720.

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At column 10, lines 36-48, please replace the paragraph there with:

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A<sup>12</sup>  
The screen display will change according to the various entries into the bidding process. In QUAD 2 depicted below, customers 3001 - 3003 on the bid side reflect a market of 27 million; see conditional prompt: 27. This includes a first bid by customer ("CUST") 3001 of 5.0 million, followed a little later by a second bid of 20 million. In this example, CUST 3007 (could be a bank or other institutional participation) has entered the picture with an uncleared offer of 10 million (marked by asterisk - indicating offer is uncleared); this is the 10 million depicted on the conditional prompt line on the offer side. As such, controlling logic gives the original makers the first [review of] chance for the new offer by 3007. After the interval, the market is again [opened] opened and the asterisk is removed.

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At column 10, lines 50-60, replace QUAD 2 with:

QUAD 2

A13

>7.625 225		TZ			
108.04		27	[+108.04] *108.04+		10
Cust	Bid	Bot	Cust	Offer	SOLD
[*3001] 3001	5	0	3007	10	0
3002	1	0			
3003	1	0			
3001	20	0		—	—
TOTL	27	0		10	0

A14

At column 10, line 62 through column 11, line 3, please replace the paragraph there with:

The When State is triggered by a trading command against an uncleared Bid/Offer by an Aggressor who is not one of the original [makers] makers on the contra-side. However, the system controls will not allow this trading command by the new Aggressor to be instantaneously executed. In accordance with system logic, the trading processor creates a time interval or delay, and thereby provides the original Maker(s) time to assess the new situation created by the Aggressor by permitting response to the uncleared entry on the passive side.

At column 11, lines 4-9, please replace the paragraph there with:



A15  
In particular, as noted above, the uncleared status exists for a defined interval - controlled by computer driven timer. It is only during this interval that a When State can be instituted, which can then only last until resolved by either the action of the original Makers on the [passive] active side, or by the expiration of the interval timer within system logic.

At column 11, lines 50-58, please replace the paragraph there with:

However, a positive response to Test 820 branches logic to block 830, wherein the market is [locked] blocked for a pre-set time interval. At block 840, all then-current active-side makers are reset to zero. At test 850, the system determines if these makers intercept the Aggressor before the time interval expires. If yes, the intercepting maker becomes the Aggressor, block 860, with full control over the succeeding trade sequence. If not, the new Aggressor is set, block 870, and logic continues to the next State, block 880.

At column 11, line 59 through column 12, line 6, please replace the paragraph there with:

A17  
The following sequence reflects the foregoing system logic. In QUAD 3A below, the Bid/Offer State has two customers, [3001] 3003 and 3002 each showing bids at 10 million; customer 3007 has just placed an uncleared offer for 1 million. Customer 3001 wishes to lift the

A17

new offer by customer 3007 - but he can't automatically. In QUAD 3B below, customer 3001 attempts to lift the offer by customer 3007 forcing the system into the When State, and creates an uncleared list for the active side (bid here). However, the prequantity of the first two bidders is reduced to zero - as the system logic requires that these bids cannot be enforced at the new price point. In this example, the second interval timer provides both original Makers (3002 and 3003) priority over customer 3001; with customer 3002 retaining overall priority via its placement in the queue.

At column 12, lines 9-16, replace QUAD 3A with:

QUAD 3A

A18

>7.625 225			TZ		
108.04		20	[+108.04+]	*108.04+	1
Cust	Bid	Bot	Cust	Offer	SOLD
3002	10	0	3007	1	0
3003	<u>10</u>	<u>0</u>		—	—
TOTL	20	0		1	0

At column 12, lines 31-49, please replace the paragraph there with:

A19

Transactions forming a trade take place in accordance with the present invention during one of two trading states, known as the Workup and Workdown States. The Workup state occurs pursuant to hits or lifts by an aggressor taking the entire inventory of volume shown on

A19  
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the passive side; once established, the Workup State gives exclusive rights to the trade to the initial [trader] traders - who the system recognizes as the current [worker] workers. On screen, current workers are highlighted in a defined manner known to other participants. Current workers control the trade and can submit additional transaction volume to their contra-traders; this to the exclusion of outside customers. Current workers on the active side of the trade will include the Aggressor, and possibly other traders, below the Aggressor with transactions that move the trade into the "Workup" State by filling residual volume that needs "Workdown". For the passive side, an Aggressor that takes the entire size limits current worker status to himself and his counterparty.

At column 12, lines 50-55, please replace the paragraph there with:

A20

The status of current worker dissipates upon entry of "done" [by the broker], or the lapsing of the trading inactivity interval. Again, this interval is a pre-set system parameter triggered via system logic. Absent such termination, current workers can trade almost indefinitely, as long as they continue to respond to their [corresponding] contra-party's size offerings.

At column 12, lines 63-67, please replace the paragraph there with:

A21

A positive response to Test 930 passes logic to blocks 940 and 950 wherein the current workers are assigned and new trades entered by the current workers, to the exclusion of other customers. The system tests for new trades, Test 960, and processes these accordingly, block 970. This continues until the current workers are done or timed out, Test 980. The system then tests for (block 965) and executes (block 975) any new transactions entered (via hit or lift commands) by new customers.

A22

At column 13, lines 18-23, please replace the paragraph there with:

Assume the bid is hit by CUST 3005 selling the entire size ([ \$16] 16 million) to the passive side. This results in CUST 3005 as the Aggressor and the [contra-traders (CUST 3001, 3002 and 3003) as the current workers] contra-trader (CUST 3001) as the current workers (as indicated by highlighting or reverse video). It is now the Workup State as the Aggressor has taken all initial size from the passive side. See QUAD 4B.

At column 13, lines 25-35, change QUAD 4B from:

QUAD 4B

>7.625 225		TZ		Refno 68119	
108.04	HIT	16	108.05+		36
Cust	Buy	BOT	Cust	Sell	SOLD
3001	0	10	3005	0	16
3002	0	5			
3003	<u>0</u>	<u>1</u>		—	—
TOTL	0	16		0	16

to:

QUAD 4B

>7.625 225		TZ		Refno 68119	
108.04	HIT	16	108.05+		36
Cust	Buy	BOT	Cust	Sell	SOLD
3001	0	10	3005	0	16
3002	0	5			
3003	<u>0</u>	<u>1</u>		—	—
TOTL	0	16		0	16

At column 13, lines 36-40, please replace the paragraph there with:

[As a current worker,] CUST 3002, wishing to continue, adds an additional 5 million size (adding to CUST 3002's original 5 million), which is displayed as 5 under Buy and 5 under BOT. See QUAD 4C. A new customer,

A 24  
cont

CUST 3004, now [offers] enters a sell order (hit) for 50  
million.

At column 13, line 42-51, please change QUAD 4C  
from:

QUAD 4C

>7.625 225			TZ Refno 68119		
108.04	HIT	16	108.05+		36
Cust	Buy	BOT	Cust	Sell	SOLD
3001	0	10	3005	0	16
3002	5	5	3004	50	0
3003	<u>0</u>	<u>1</u>		—	—
TOTL	5	16		50	16

to:

QUAD 4C

>7.625 225			TZ Refno 68119		
108.04	HIT	16	108.05+		36
Cust	Buy	BOT	Cust	Sell	SOLD
3001	0	10	3005	0	16
3002	5	5	3004	50	0
3003	<u>0</u>	<u>1</u>		—	—
TOTL	5	16		50	16

At column 13, lines 54-59, please replace the  
paragraph there with:

A<sup>26</sup>  
New CUST 3004 must wait until the current workers are done (via keyboard entry or timer controlled system interval). Only after this, may CUST 3004 [clear] sell the additional 5 million [by] to CUST 3002, while leaving 45 million [uncleared] unsold.

At column 13, before line 60, please insert the following new paragraph:

A<sup>27</sup>  
QUAD 4D shows the display after CUST 3004 has traded with CUST 3002. The asterisks next to the entries for CUST 3001 and CUST 3005 indicate that these initial traders are done or timed-out.

At column 14, before line 11, please insert the following new paragraph:

A<sup>28</sup>  
As shown in QUAD 4D, above, because there is no longer a current worker, no one can control the trade to the exclusion of others.

At column 14, lines 11-21, please replace the paragraph there with:

A<sup>29</sup>  
As can be appreciated, various customer moves in the market are often fast paced - and on occasion position changes may occur almost simultaneously. An example of this may be a first customer hitting a second customer's bid of a certain size, via the buy/sell all key - an instant after [that] a second customer has

A29  
crit

significantly increased the bid size - say from [\$5 to \$20] 5 to 20 million. In this situation, the Aggressor, within the system, has now taken much more than he planned. This situation can be very disturbing in a rapidly shifting market.

At column 14, lines 31-37, please replace the paragraph there with:

A30

The Second Look, however, is limited. The Aggressor must complete the transaction excluding the new, i.e., "unaged" Bid/Offer. The new size is left [uncleared] untraded and others may add more offers/bids on this, the passive side - but these stay below the line. Even though the Aggressor did not fill the entire size displayed, the Aggressor assumes current worker status and has the right to:

At column 14, lines 38-39, please replace the paragraph there with:

- A31
1. Take the new size, creating the Workup State with the [contra-traders] contra-trader;

At column 14, line 43, please replace the paragraph there with:

- A32
3. Take/hit a "partial" amount and then lose priority, with the system then entering workdown.



At column 14, lines 59-67, please replace the paragraph there with:

A33  
These principles are delineated in the following sequence of screen displays in [QUAD 5A] QUADS 5A-5C below, wherein CUST 3001, 3002 and 3003 are showing 5mm, 1mm and 1mm, respectively, as having been bought. Just prior to the sell order by CUST 3007 (HIT ALL), CUST 3004 enters with a 1mm size. All size transacts, except this late 1.0 mm as it had not "aged" sufficiently - as measured by system interval timer. This amount remains untraded and the system enters the Second Look State.

At column 15, lines 15-17, please replace the paragraph there with:

A34  
If CUST 3007 decides to fill this outstanding 1.0 mm size, the state moves out of "Second Look" and into the Workup State with CUST 3007 and CUST 3001 as Current Workers, as shown in QUAD 5B. As illustrated, CUST 3007 has also entered a sell order for a volume of 2mm.

At column 15, line 19-30, change QUAD 5B from:

QUAD 5B

>7.625 225						
108.04						
0						
	HIT	TZ	Refno 68115			
		8				
Cust	Buy	BOT	Cust	Sell	SOLD	
3001	0	5	3007	2	8	
3002	0	1				
3003	0	1				
3004	<u>0</u>	<u>1</u>		<u>—</u>	<u>—</u>	
TOTL	0	8		2	8	

to:

QUAD 5B

>7.625 225						
108.04						
0						
	HIT	TZ	Refno 68115			
		8				
Cust	Buy	BOT	Cust	Sell	SOLD	
3001	0	5	3007	2	8	
3002	0	1				
3003	0	1				
3004	<u>0</u>	<u>1</u>		<u>—</u>	<u>—</u>	
TOTL	0	8		2	8	

At column 15, lines 31-35, please replace the paragraph there with:

If, however, CUST 3007 passes, the trade goes to the Workdown State as shown in QUAD 5C. New CUST 3005 now enters and is positioned below the line and can only trade after CUST 3001 is done and CUST 3004 trades.

At column 15, lines 49-60, please replace the paragraph there with:

A<sup>37</sup>

The final state for trading logic is known as the Workdown [Sate] State and it occurs when the original Aggressor takes less than all of the size showing [or] on the passive side. The remaining size must be worked down to complete the trade. This is to reward those customers that show bids/offers, their intent to buy/sell, and thus provide liquidity in the market. If the original Aggressor returns for the remaining size [on] from the passive size, the Workup State is initiated. Another trader from the active side may "Workdown" the remaining passive side quantity and the trade will go to the Workup State - with this new trader as the current worker - if all the remaining size from the original Bid/Offer State is taken.

At column 15, lines 61-67, please replace the paragraph there with:

A<sup>38</sup>

The Workdown State allows new Aggressors to complete the [uncleared] remaining un-hit bids on the passive side with logic conforming to the flowchart of FIG. 10. In this process, the Trading command, CMD(I), is entered at block 1210. At Test 1220, the system confirms that the trade is for less than the total passive side, TOTL. If not, logic branches to block 1280 and is directed to the Workup State.

At column 16, lines 8-11, please replace the paragraph there with:

A39  
Importantly, new traders presenting on the passive side must wait until all the remaining original size is worked down - and their position is held below the line. This is depicted in the following [screens] QUADS 6A-6C.

At column 16, line 12-21, replace QUAD 6A with:

A40  
QUAD 6A

>7.625 225		TZ		25	
108.04	HIT	15	[+108.04+]	*108.04+	
Cust	Bid	BOT	Cust	Offer	SOLD
3001	5	0	3007	25	0
3002	<u>10</u>	<u>0</u>		—	—
TOTL	15	0		25	0

At column 16, lines 23-27, please replace the paragraph there with:

A41  
In QUAD 6A, the Bid/Offer State is depicted with CUST 3001 showing a bid of [\$5] 5 million. As the Aggressor, CUST 3001 lifts an offer from CUST 3007, but for only 5mm of CUST 3007 showing of 25 mm; leaving [\$20] 20 million on the passive side. See QUAD 6B.

At column 16, lines 38-41, please replace the paragraph there with:

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At this juncture, if CUST 3006 enters with [\$10] 10 million offer, it must wait until the original passive side clears; CUST 3006 is thus kept below line as the remaining size is worked down. See QUAD 6C.

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At column 17, lines 22-40, please replace the paragraph there with:

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During the Workdown State, CANCEL functions to remove any remaining passive maker's markets. DONE performs the same function as the CANCEL function and also allows the passive [trade participant] trading participants in the Workdown State to remove themselves from trading lists, thereby effectively removing their committed sizes before the system has had a chance to execute them. UNDO functions to "unroll" the trade and reduce the size shown to customers if executed during a predefined time period after the initial trade. Additionally, the UNDO function proportionally reduces the amount traded by all passive makers. The restriction of a predefined time period discourages one player from taking unfair advantage of this correction facility. Analogously, if more than one trader participated in the trade, then the UNDO function causes the trader to join the contra side for the size desired to be undone. The UNDO function can be invoked at any time by any participant, on the active side or the passive side; the system uses appropriate logic to maintain the fairness of the trading protocol.

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